

CLAIMS

1. A screw press (1) for pressing fibrous material, in particular sugar beet pulp, comprising:
- a pair of adjacent counter-rotating shafts (20, 30) having their axes (X-X, X'-X'), disposed parallel to each other, said shafts (20, 30) each being provided externally with a box-like helical structure (21, 31), each helical structure (21, 31) winding in the opposite direction to the helical structure of the other shaft;
 - a perforated walled filtering cage (4) enclosing said helical structures (21, 31) as an exact fit;
 - a loading hopper (10) for feeding the fibrous material to the press (1);
 - a discharge aperture (11) for the exit of the pressed material;
 - a collection sump (12) positioned externally to said filtering cage (4) to collect the liquid component of the pressed fibrous material,
- 15 characterised in that each box-like helical structure (21, 31) comprises a helix (22, 32) and a helical element (23, 33), said helical element (27, 37) forming a helical interspace (27, 37) with the outer surface of the shaft (20, 30) and comprising at least one perforated surface (24, 34), said perforated surface (24, 34) having a length (L) along the axis (X-X, X'-X')
- 20 of the shaft (20, 30) which at every point is less than the pitch (P) of the helix (22, 32) by an amount sufficient to receive the helix (32, 33) of the adjacent shaft (30, 20).
2. A press (1) as claimed in claim 1, wherein said shaft (20, 30) has a cylindrical outer surface.
- 25 3. A press (1) as claimed in claim 1, wherein said shaft (20, 30) has a conical outer surface.

4. A press (1) as claimed in any one of claims from 1 to 3, wherein said perforated surface (24, 34) can be enveloped by a conical surface.
5. A press (1) as claimed in any one of claims from 1 to 4, wherein said helix (22, 32) can be enveloped externally by a cylindrical surface.
- 5 6. A press (1) as claimed in any one of claims from 1 to 4, wherein said helix (22, 32) can be enveloped externally by a conical surface.
7. A press (1) as claimed in any one of the preceding claims, wherein said helix (22, 32) is formed by a hollow box-like structure communicating with said helical interspace (27, 37) and presents at least one perforated
10 side.
8. A press (1) as claimed in any one of the preceding claims, wherein said helix (22, 32) presents a pitch decreasing in the direction of advancement of the material during pressing.

AMENDED CLAIMS

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remaining claims unchanged; (1 pages)]

CLAIMS

1. A screw press (1) for pressing fibrous material, in particular sugar beet pulp, comprising:
 - a pair of adjacent counter-rotating shafts (20, 30) having their axes (X-X, X'-X'), disposed parallel to each other, said shafts (20, 30) each being provided externally with a box-like helical structure (21, 31), each helical structure (21, 31) winding in the opposite direction to the helical structure of the other shaft;
 - a perforated walled filtering cage (4) enclosing said helical structures (21, 31) as an exact fit;
 - 10 - a loading hopper (10) for feeding the fibrous material to the press (1);
 - a discharge aperture (11) for the exit of the pressed material;
 - a collection sump (12) positioned externally to said filtering cage (4) to collect the liquid component of the pressed fibrous material,
- 15 characterised in that each box-like helical structure (21, 31) comprises a helix (22, 32) and a helical element (23, 33), said helical element (27, 37) forming a helical interspace (27, 37) with the outer surface of the shaft (20, 30) and comprising at least one perforated surface (24, 34), said perforated surface (24, 34) having a length (L) along the axis (X-X, X'-X') of the shaft (20, 30) which at every point is less than the pitch (P) of the helix (22, 32) by an amount sufficient
- 20 to leave free a channel adjacent to the helix (22, 32) in which the helix (23, 33) of the adjacent shaft (30, 20) is received.
2. A press (1) as claimed in claim 1, wherein said shaft (20, 30) has a cylindrical outer surface.
3. A press (1) as claimed in claim 1, wherein said shaft (20, 30) has a conical
- 25 outer surface.